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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/069,443 | 02/27/2002 | Ulf Knoblich | Q68560 | 3461 |

7590 06/07/2005
Sughrue Mion
2100 Pennsylvania Avenue N W
Washington, DC 20037-3213

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| EXAMINER |
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ARMSTRONG, ANGELA A

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| ART UNIT | PAPER NUMBER |
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2654

DATE MAILED: 06/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/069,443

Applicant(s)

KNOBLICH ET AL.

Examiner

Angela A. Armstrong

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 February 2002.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 02/27/02.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Specification

1. The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

Arrangement of the Specification

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

- (a) TITLE OF THE INVENTION.
- (b) CROSS-REFERENCE TO RELATED APPLICATIONS.
- (c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.
- (d) THE NAMES OF THE PARTIES TO A JOINT RESEARCH AGREEMENT
- (e) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC (See 37 CFR 1.52(e)(5) and MPEP 608.05. Computer program listings (37 CFR 1.96(c)), "Sequence Listings" (37 CFR 1.821(c)), and tables having more than 50 pages of text are permitted to be submitted on compact discs.) or
REFERENCE TO A "MICROFICHE APPENDIX" (See MPEP § 608.05(a). "Microfiche Appendices" were accepted by the Office until March 1, 2001.)
- (f) BACKGROUND OF THE INVENTION.
 - (1) Field of the Invention.
 - (2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.
- (g) BRIEF SUMMARY OF THE INVENTION.
- (h) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).
- (i) DETAILED DESCRIPTION OF THE INVENTION.
- (j) CLAIM OR CLAIMS (commencing on a separate sheet).
- (k) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).
- (l) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A "Sequence Listing" is required on paper if the application discloses a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if the required "Sequence Listing" is not submitted as an electronic document on compact disc).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

2. Claims 1-5 and 8-10 are rejected under 35 U.S.C. 102(e) as being anticipated by Pastor et al (US Patent No. 6,438,513).

3. Regarding claim 1, Pastor discloses a Noise reduction system comprising an input for receiving per time-interval at least two input signals (col. 4, lines 55-58; col. 5, lines 40-44; col. 8, lines 4-44) and comprising a noise estimator coupled to said input for performing noise estimations per input signal and comprising a converter (col.8, line 5) coupled to said noise estimator for performing conversions of said noise estimations and for generating correction signals and comprising a combiner coupled to said converter and to said input for generating at least two output signals per time-interval,

characterized in that said converter comprises a control input for receiving adaptation signals for adapting said conversions (col. 8, lines 5-20).

Regarding claim 2, Pastor discloses said noise reduction system comprises a generator coupled to said noise estimator for generating said adaptation signals in dependence of said noise estimations (col. 8, lines 5-39).

Regarding claim 3, Pastor discloses said generator generates said adaptation signals by scaling said noise estimations, with said scaling being dependent upon said noise estimations (col. 8, lines 36-39).

Regarding claim 4, Pastor discloses said noise estimation per input signal starts with averaging each input signal received during several time-intervals (col. 8, lines 29-33).

Regarding claim 5, Pastor disclose said noise reduction system comprises a smoother for receiving said correction signals and smoothing them and supplying them to said combiner (col. 8, line 20).

Regarding claim 8, Pastor discloses a method for reducing noise per time-interval for at least two input signals (col. 4, lines 55-58; col. 5, lines 40-44) comprising a first step of performing noise estimations per input signal and a second step of performing conversions of said noise estimations and a third step of generating correction signals and a fourth step of generating at least two output signals per time-interval, characterized in that said method comprises a fifth step of receiving adaptation signals for adapting the conversions (col. 8, lines 5-39).

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Regarding claim 9, Pastor discloses said method comprises a step of generating said adaptation signals in dependence of said noise estimations (col. 8, lines 5-39).

Regarding claim 10, Pastor discloses a sub step of generating said adaptation signals by scaling said noise estimations, with said scaling being dependent upon said noise estimations (col. 8, lines 36-39).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 6-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pastor in view of Borth (WO 87/00366).

5. Regarding claim 6, Pastor does not disclose the converter performs said conversions at the hand of tables, with said adaptation signals adapting said tables.

Borth discloses a noise suppression system and describes various methods of gain calculations including using gain tables. It would have been obvious to one of ordinary skill at the time of the invention to modify the system of Pastor to implement gain tables, as suggested by Borth for the purpose of improving the noise suppression algorithm and thereby obtaining higher quality data signals.

Regarding claim 7, Pastor does not disclose a converter performs said conversions at the hand of functions, with said adaptation signals adapting said functions.

Borth discloses a noise suppression system and describes various methods of gain calculations including using computing the gain as a function of a particular mathematical relationship to the signal-to-noise ratio. It would have been obvious to one of ordinary skill at the time of the invention to modify the system of Pastor to implement gain calculations as a function of the signal-to-noise ratio, as suggested by Borth for the purpose of improving the noise suppression algorithm and thereby obtaining higher quality data signals.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.
7. Pastor et al (US Patent No. 6,445,801) disclose a method of frequency filtering applied to noise suppression in signals implementing a wiener filter.

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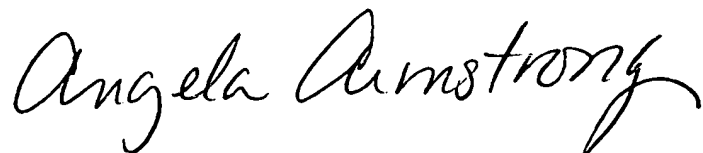
8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Angela A. Armstrong whose telephone number is 571-272-7598. The examiner can normally be reached on Monday-Thursday 11:30-8:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richemond Dorvil can be reached on 571-272-7602. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Angela A Armstrong
Examiner
Art Unit 2654

AAA
June 01, 2005

A handwritten signature in black ink that reads "Angela Armstrong". The signature is written in a cursive, flowing style with a large, prominent "A" at the beginning.